

Vision HD-CAT

Halogenated Destruction Catalytic Oxidizer



First to introduce this technology in the USA

In 1989, Catalytic Combustion Corporation engineered, manufactured and installed the first chlorinated catalytic oxidizer ever permitted in the U.S. Since this first-in-the-nation system – which is still in operation today and has, to date, destroyed over 80 tons of TCE – CCC has installed over 100 operating units for the treatment of chlorinated and fluorinated compounds for various applications.

Why use catalytic oxidation?

There are a number of advantages to using catalytic oxidation over thermal incineration for the destruction of VOCs. Two main advantages – lower temperatures and shorter residence times – yield dramatically reduced capital and operating costs. The chart below provides a comparison of required temperatures and residence times to achieve 99% destruction efficiency on four sample compounds. Thermal incineration requires significantly higher temperatures (at an increased operating cost) and 8-9 times longer residency than catalytic oxidation which, in turn, requires a reactor that is correspondingly 8-9 times larger than that of a catalytic oxidizer.



Catalytic Oxidation vs Thermal Incineration in Achieving 99% Destruction Efficiency

Representatives from Four Chemical Families*	Temperature (°F) Requirements		Residence Time (Seconds) Requirements	
	Catalytic	Thermal	Catalytic	Thermal
Benzene (Hydrocarbon)	450	1460	0.10	1.0
Carbon TET (Halocarbon)	700	1430	0.13	1.0
MEK (Oxygen Compound)	600	1780	0.10	1.0
Acetaldehyde (Nitrogen Compound)	500	1800	0.17	1.5

*The 1990 Clean Air Act identified 189 air toxics which can all be organized into the four chemical families noted in parenthesis above. This table compares a representative from each family.

World Headquarters

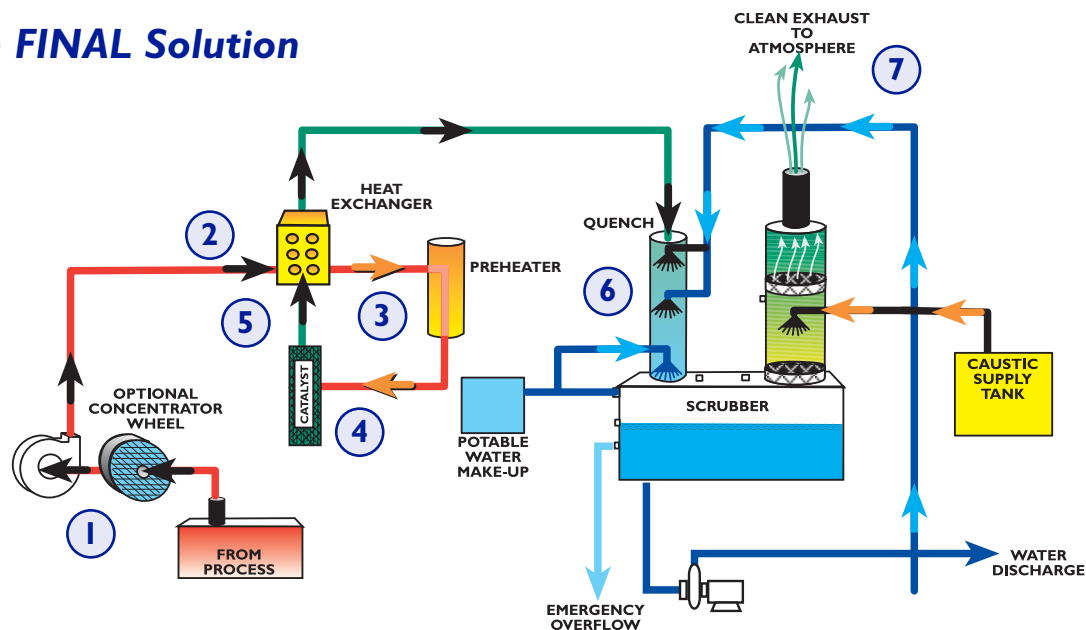
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**CATALYTIC
COMBUSTION**

With sales and service offices in North, South and Central America, Europe and Asia

The FINAL Solution



(1) Contaminant-laden air is drawn from the process stream by either a forced draft or an induced draft fan. (2) It passes through a counter-cross-flow heat exchanger where the incoming air is pre-heated before reaching the electric or gas fired pre-heater. (3) The pre-heater increases the temperature of the contaminated air prior to entering the oxidation catalyst. (4) As the contaminant-laden air mixture passes through the

catalyst, the contaminants are adsorbed onto the surface of the catalyst where they react with hydrogen and oxygen. (5) The purified air now moves to the heat exchanger where it is used to pre-heat the incoming vapors. (6) The purified air is then vented to the HCl quench, scrubber and neutralization system prior to final discharge. (7) The by-products of this system are sodium chloride, water and carbon dioxide.



Why purchase a Vision HD-CAT?

Features

Guaranteed 95-99% destruction efficiency

Over 50% heat recovery

Stainless steel construction

Final solution; complete combustion

Concentrator module

Benefits

Assures regulatory compliance

Low operating cost

Long-term operation

No hazardous waste transported off-site; no furan or PIC formation

Converts large air flow/low concentration loading to low air flow/high concentration loading

Put our experience to work for you

With over 50 years experience, Catalytic Combustion Corporation continues to introduce and support innovative, state-of-the-art air pollution control technology. Contact us, today, for a confidential quote.

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